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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,785	11/12/2003	Antonius Theodorus Anna Maria Derksen	081468-0306526	5221
909	7590	03/25/2005	EXAMINER	
PILLSBURY WINTHROP, LLP			KIM, PETER B	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2851	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/705,785

Applicant(s)

MARIA DERKSEN ET AL.

Examiner

Peter B. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-14, 16, 19, 21-26, 28, 30, 32 and 37 is/are rejected.
- 7) ☒ Claim(s) 5, 17, 18, 20, 27, 29, 31 and 33-36 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>112003, 22004, 62004, 1 2005</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Information Disclosure Statement

On IDS filed on Jan, 6, 2005, U.S. Patent Application Publication 2004/0123351 to Krautschik is not considered because 2004/0123351 seems to be an incorrect number.

Claim Objections

Claims 12, 16, and 21 includes "said final element" or "the final element" which lack antecedent basis.

Claims 6, 19, and 28 are directed towards the shutter attached to the liquid supply system; however, the written description does not seem to adequately disclose the shutter attached to the liquid supply.

The following art rejections are based on the examiner's best understanding of the claims in light of the issues listed above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6-14, 16, 19, 21, 22-26, 28, 30, 32, and 37 are rejected under 35

U.S.C. 102(b) as being anticipated by Suwa (6,191,429).

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Suwa discloses in Fig. 9 and 10, a lithographic projection apparatus and a device manufacturing method comprising a support structure (14), a substrate table (113) to hold a substrate (W), a projection system (PL), a liquid supply system (LQ) to provide an immersion liquid, through which said beam is to be projected, in a space between the projection system and the substrate (although the supply system is not shown, it is inherent that a supply system provided the liquid LQ shown in Fig), a shutter (LB, HRS) configured to keep the projection system in contact with liquid when the substrate is moved away from the projection system (when the substrate is moved all the way to the right, the substrate is away from the projection system, and the projection system is in contact with liquid above the surface HRS). Suwa also discloses the liquid confined in the system between projection system and the shutter (Fig. 9), the shutter comprising a surface of the substrate table (HRS), the shutter separable from the remainder of the apparatus (Fig. 7B, 9), and the shutter has a primary surface (HRS) co-planar with a surface of the substrate.

Claims 1, 21, 23 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Lin (2004/0075895).

Lin discloses in Fig. 4, a lithographic projection apparatus and a device manufacturing method comprising a support structure, a substrate table (16) to hold a substrate (20), a projection system (36), a liquid supply system (32, 30) to provide an immersion liquid, through which said beam is to be projected, in a space between the projection system and the substrate, a shutter (42) configured to keep the projection system in contact with liquid when the substrate is moved away from the projection system (when the substrate is moved all the way to the right or

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left, the substrate is away from the projection system, and the projection system is in contact with liquid above the surface 82). Lin also discloses the liquid confined in the system between projection system and the shutter (Fig. 4), and the immersion liquid supplied through an inlet (32) and removed after the liquid has passed under the projection system through an outlet (30).

Allowable Subject Matter

Claims 5, 17, 18, 20, 27, 29, 31, and 33-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the prior art of record teaches or discloses a lithographic projection apparatus comprising the substrate table releasably holding the shutter to the substrate table in combination with the limitations of the claims 1, 2 and 4.

None of the prior art of record teaches or discloses a lithographic projection apparatus comprising a sensor to measure a position of the shutter using the guided mark in combination with the limitations of the claims 1, 2 and 14.

None of the prior art of record teaches or discloses a lithographic projection apparatus comprising an outlet configured to remove liquid from the space and a gas inlet configured to provide flushing gas in combination with the limitations of the claim 1.

None of the prior art of record teaches or discloses a lithographic projection apparatus comprising a controller to move the substrate table or the liquid supply system so that the shutter confines liquid in the supply system in combination with the limitations of the claims 1, and 2.

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None of the prior art of record teaches or discloses a lithographic projection apparatus comprising a channel to remove liquid that leaks from between the projection system and the shutter in combination with the limitations of the claims 1, and 2.

None of the prior art of record teaches or discloses a device manufacturing method comprising releasably holding the shutter on a substrate table in combination with the limitations of the claims 23, 24 and 26.

None of the prior art of record teaches or discloses a device manufacturing method comprising measuring a position of the shutter using a guide mark in combination with the limitations of the claims 23, and 24.

None of the prior art of record teaches or discloses a device manufacturing method comprising removing liquid from the space and flushing the space with a gas in combination with the limitations of the claim 23.

None of the prior art of record teaches or discloses a device manufacturing method comprising moving one the substrate table or the liquid supply system so that the shutter confines liquid in the liquid supply system in combination with the limitations of the claims 23, and 24.

None of the prior art of record teaches or discloses a device manufacturing method comprising removing liquid that leaks from between the projection system and the shutter in combination with the limitations of the claims 23, and 24.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter B. Kim whose telephone number is (571) 272-2120. The examiner can normally be reached on 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'P. B. Kim', with a stylized flourish at the end.

Peter B. Kim
Primary Examiner
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March 20, 2005